Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

A new American fossil hepatic

MARSHALL A. HOWE AND ARTHUR HOLLICK

(WITH ONE TEXT FIGURE)

Fossil Hepaticae are among the rarest of known paleobotanical remains. The total number of described species is less than twenty. Of these more than half are identifiable as living species of Jungermanniaceae, all but one of which are represented merely by fragments enclosed in amber of recent geologic age, found in the Old World. The remainder probably all belong in the Marchantiaceae.

Three species only have been heretofore recorded from America,* all of which are referable, either definitely or provisionally, to the latter family. It should be remarked, however, that the identity, as well as the botanical relationship of the species last cited, in our footnote, is questioned by Fontaine, who says (*l. c.*, p. 54): "It is similar to that of a *Brachyphyllum* and the plant may be really a twig of that conifer." Incidently it may also be remarked that this is the only species recorded for any geological horizon older than Tertiary, and that the type of the species, from the Jurassic of England, was originally described as an alga under the name *Fucoides erectus* Bean.†

Several years ago a collection of fossil plant remains from Florissant, Colorado, was sent by Mr. T. D. A. Cockerell to the New York Botanical Garden for examination. Among them was what appeared to be a fragment of a bryophyte; but it was so small and imperfectly defined that it was not identified, even as to its probable class relationship, until an enlarged photograph (FIG. 1) was made. The specimen evidently represents a

---

*(a) *Preissites Wardii* Knowlton, Bull. Torrey Club **21**: 458. *pl. 219.* 1894. Eocene (Fort Union formation), Burn's Ranch, thirty miles from Glendive, Montana.

(b) *Marchantia Pealei* Knowlton, Proc. U. S. Nat. Mus. **35**: 157. *pl. 25.* 1908. Eocene (Lance formation), Custer County, Montana.

(c) "*Marchantites erectus* (Bean) Seward?", *fide* Fontaine in Ward, Monog. U. S. Geol. Survey **48**: 53. *pl. 6, f. 1, 2.* 1905. Jurassic, Douglas County, Oregon.

†In Leckenby, Quart. Jour. Geol. Soc. London **20**: 81. *pl. 11, f. 3a, 3b* (erroneously numbered *2a, 2b* on the plate). 1864.

member of the Bryophyta and probably belongs to the family Jungermanniaceae of the class Hepaticae.

Jungermanniopsis gen. nov.

Plants slender and minute, consisting of stem and leaves and showing a pronounced dorsiventrality, with ventral (postical) roothairs and dorsal (antical) apparently one-ranked but probably two-ranked ovate-acuminate, often subfalcate, assurgent or subvertical (antically secund) leaves and with occasional indistinct suggestions of much smaller lateral lanceolate or ligulate leaves.

Jungermanniopsis Cockerellii sp. nov.

Stem ascending at apex; leaves 1–1.5 mm. long, 0.4–0.7 mm. in maximum width, contiguous, narrowly spaced, or slightly overlapping at extreme base, the intervals between the leaves commonly resembling the outlines of inverted leaves, the often subfalcate acuminations directed forwards, the acuminations sometimes accentuated by reflexions of the subapical margins, the margins entire or with indistinct indications of small teeth.

COLLECTOR: T. D. A. Cockerell.

FORMATION AND LOCALITY: Miocene shale, Florissant, Colorado (Station 14).

Type specimen in the Museum of the New York Botanical Garden.

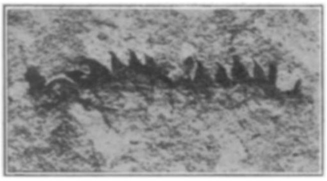

FIG. 1. JUNGERMANNIOPSIS COCKERELLII Howe & Hollick

The one fragment, upon which the genus and species are based, is about 12 or 13 mm. long and evidently lies on its side. The specimen shows a possible forking of the stem near the apex, with one branch ascending and the other descending, but the descending part is probably only a collection of roothairs. Among the living Hepaticae, the pointed, antically secund leaves of *Jungermanniopsis* suggest the widely distributed *Herberta adunca* (Dicks.) S. F. Gray; but there is no indication that the leaves are bilobed as in the genus *Herberta*. In its antically secund leaves, it resembles also such leafy Hepaticae as *Jamesoniella autumnalis* (DC.) Steph. and certain species of *Nardia*, but in the form and looser disposition of the leaves it is very different from any of these. The possible presence of smaller ligulate or lanceolate lateral leaves might, if fully substantiated, result in placing the plant with the Musci rather than with the Hepaticae. But the small size and general habit of the organism suggest affinities with the Jungermanniaceae rather than with the Musci. The specific name is in honor of Mr. T. D. A. Cockerell, the collector.